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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT OPERATIONS

Art Unit: (Examiner)

Applicants: BADRI et al.

Serial No: 09/763,009

Filed: February 13, 2001

Title: METHOD AND DEVICE FOR TRANSMITTING INFORMATION
SYMBOLS USING A PLURALITY OF CARRIERS AND METHOD AND
DEVICE FOR RECEIVING INFORMATION SYMBOLS

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Charlotte, North Carolina
April 3, 2001

Honorable Commissioner of Patents and Trademarks
Washington, D. C. 20231

Dear Sir:

CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner of Patent and Trademarks, Washington, D.C. 20231, on: April 3, 2001

Lisa Camann
DOUGHERTY & CLEMENTS LLP
6230 Fairview Road, Suite 400
Charlotte, North Carolina 28210
Tel: 704/366-6642

April 3, 2001
Date

Docket 3104



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SUPPLEMENT TO FORM SB/08A & 08B

**INFORMATION DISCLOSURE CITATION EXPLAINING
THE RELEVANCE OF EACH OF THE NON-ENGLISH REFERENCES CITED IN THE
NATIONAL GERMAN AND INTERNATIONAL EXAMINATION PROCEEDINGS**

1. Kammeyer, Karl Dirk, Nachrichtenertragung, 15.1, "Probleme der Mobilfunkubertragung", pp 594 - 599.
2. DE 37 85 670 T2
3. DE 195 32 959 A1

INFORMATION DISCLOSURE STATEMENT
REMARKS

The attached PTO Form PTO/SB/08A/08B is incorporated as part of the Information Disclosure Statement. A copy of each cited document is enclosed herewith.

Applicants submit herewith patents, publications, or other information of which they are aware, which they believe may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR 1.56.

While this Information Disclosure Statement may be "material" pursuant to 37 CFR 1.56, it is not intended to constitute an admission that any patent, publication, or other information referred to therein is "prior art" for this invention unless specifically designed as such.

In accordance with 37 CFR 1.97(b), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists.

1) Pages 594 to 599 of the German textbook by Kammeyer relate to problems in connection with mobile communication. Channels for mobile communications are time selective and frequency selective. A multi-carrier transmission is proposed in which an OPSK modulation is suggested for each partial band.

This reference does not relate to the constellation mapping or constellation diversity as described in the present application.

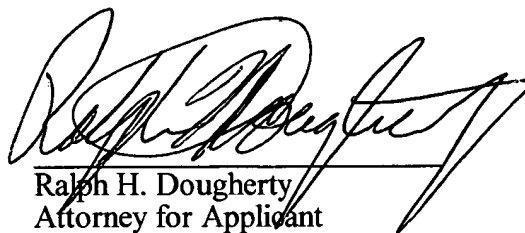
2) DE 37 85 670 T2 relates to a method for digital transmission especially suited for moving vehicles. For reducing disturbance, an interleaver connected to a convolutional encoder is suggested. This reference also does not relate to the constellation diversity as described in the present patent application.

3) DE 195 32 959 A1 relates to a method of transmitting digital data via noisy broadcast channels and to an apparatus for receiving digital data transmitted via noisy broadcast channels. Digitally coded data are modulated by means of an OFDM modulation and are transmitted in a transmission frame. The same data are transmitted at a later time in the same frame. In the receiver, data from

the two transmissions are stored and processed. In particular, the data from both transmissions are added when they are identical.

To summarize, this reference discloses a time diversity method in which the same information is transmitted at two time instances. Therefore, this reference is not pertinent to the present invention.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Ralph H. Dougherty', is written over a horizontal line.

Ralph H. Dougherty
Attorney for Applicant
Registration No. 25,851
DOUGHERTY & CLEMENTS LLP
6230 Fairview Road, Suite 400
Charlotte, North Carolina 28210
Telephone 704/366-6642

RHD/ljc

Attorney's Docket 3104

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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Application Number	09/763,009
Filing Date	02-13-01
First Named Inventor	BADRI et al.
Group Art Unit	
Examiner Name	

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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

2

of

2

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Application Number	09/763,009
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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		KAMMEYER, Karl Kirk, Nachrichtenubertragung, 15.1, "Probleme der Mobilfunkubertragung", pp 594-599, Stuttgart: Teubner, 1992.	
		UNGERBOECK, gottfried, "Channel Coding with Multilevel/Phase Signals", pp 55-66. IEEE Transaction on Information Theory, vol. IT-28, No. 1 January 1982.	
		WEINSTEIN, S.B., et al., "DATA TRANSMISSION BY FREQUENCY-DIVISION MULTIPLEXING USING THE DISCRETE FOURIER TRANSFORM", pp 628-634, IEEE Transactions on Communication Technology, vol. 1, COM-19, No. 5, Oct. 1971.	
		ZOU, William Y., et al., "COFDM: AN OVERVIEW", pp 1-8, IEEE Transactions on Broadcasting, vol. 41, No. 1, March 1995.	
		European Telecommunication Standard ETS 300 744, March 1997	
		May, Thomas, et al., "PERFORMANCE ANALYSIS OF VITERBI DECODING FOR 64-DAPSK and 64-QAM MODULATED OFDM SIGNALS" pp 182-190, IEEE Transactions of Communication, vol. 46, No. 2, February 1998.	
		FISCHER, Robert, "CALCULATION OF SOFT-OUTPUT IN DIFFERENTIAL PHASE MODULATION", pp 9 - 16, Lehrstuhl fur Nachrichtentechnik II, Universitat Erlangen-Nurnberg.	

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